

REMARKS/ARGUMENTS

Applicant acknowledges receipt of the Office Action dated April 30, 2010. By this Response, claims 13, 14, 24, and 33 are amended, and claims 22 and 32 are cancelled. Claims 13-15, 17, 19-21, 23-25, 27-29, 31, and 33 are now pending in the application. The Examiner rejected claims 13-15, 17, 19-25, 27, 28, and 31-33 under 35 U.S.C. §103 as being unpatentable over Pickford et al., WO 03/089023 (“*Pickford*”) in view of O’Brien et al., U.S. Patent No. 7,488,343 (“*O’Brien*”). Claim 29 is rejected as being unpatentable over *Pickford* in view of *O’Brien* and further in view of Rosenberg, U.S. Patent No. 5,185,075 (“*Rosenberg*”). The Examiner has also rejected claims 13-15, 17, 19-25, 27, 28, and 31-33 under 35 U.S.C. §103 as being unpatentable over *O’Brien* in view of *Pickford*. In addition, the Examiner also rejected claim 29 under 35 U.S.C. §103 as being unpatentable over *O’Brien* in view of *Pickford* and further in view of *Rosenberg*. Applicant believes the pending claims are allowable over the art of record and respectfully requests reconsideration and allowance of all claims.

I. **Claims 13-15, 17, 19-21, 23-25, 27, 28, 31, and 33 are patentable over *Pickford* in view of *O’Brien*.**

Applicant respectfully traverses the Examiner's rejection of claims 13-15, 17, 19-21, 23-25, 27, 28, 31, and 33 under §103 as being unpatentable over *Pickford* in view of *O’Brien*. Applicant submits that the Examiner has not made a *prima facie* case of obviousness in rejecting such claims in that the Examiner has not cited references that teach or suggest all of the elements recited in the rejected claims. Please note that claims 22 and 32 have been cancelled by this Response.

Claim 13 is an independent claim upon which claims 14, 15, 17, 19-21, 23, and 31 depend. Claim 24 is an independent claim upon which claims 25, 27, 28, and 33 depend. Claim 13 as amended recites “said pits being filled with a softer and more porous material than the hard layer, wherein the softer and more porous material comprises titanium oxide, and wherein the surface layer comprises a surface area, and wherein said pits being of a diameter about 5 microns and said pits occupying between 15 and 20% of the surface area of the surface layer.” Claim 24 as amended recites “anodising the implant at a voltage above 50 volts for a period of at least 30

minutes, so as to generate . . . shallow pits in the surface layer which are filled with a somewhat softer and more porous material comprising titanium oxide, wherein the surface layer comprises a surface area, and wherein said pits being of a diameter about 5 microns and occupying between 15 and 20% of the surface area of the surface layer, such that in the ion exchange step said more porous material in the pits absorbs biocidal metal to a larger extent than said hard layer.” Nothing in *Pickford* teaches or suggests all such recitations. The Examiner has indicated that *Pickford* does not teach or suggest such recitations. For instance, the Examiner has set forth that *Pickford* does not disclose that a “surface layer is an anodized hard layer including pits.” (Office Action, pg. 3, lns. 10-11)

O'Brien does not provide the missing recitations of independent claims 13 and 24 to *Pickford* as *O'Brien* does not teach or suggest the missing recitations of independent claims 13 and 24. Applicant respectfully sets forth that the anodising processes taught in *O'Brien* would not produce pits as required by independent claims 13 and 24. For instance, *O'Brien* teaches two anodising processes, one of which produces hollow post-shaped structures instead of the required pits. (*O'Brien*, col. 4, lns. 48-52) Moreover, instead of the required “pits being filled with a softer and more porous material,” such post-shaped structures of *O'Brien* are hollow.” (*O'Brien*, col. 4, lns. 48-52) In addition, the produced hollow post-shaped structures of *O'Brien* have an inner diameter from “about 5 nm to about 250 nm (e.g., about 70 nm to about 100 nm).” (*O'Brien*, col. 4, lns. 48-56) Such sized structures of *O'Brien* are more than an order of magnitude smaller than the required about 5 micron diameter pits of independent claims 13 and 24 and therefore cannot teach or suggest such recitations.

The other anodising process taught by *O'Brien* uses an electrolyte such as phosphoric acid and applies voltage until color “develops within the first few seconds of the process i.e. usually in much less than one minute.” (*O'Brien*, col. 11, lns. 62-67, emphasis added) This other anodising process does not produce “a hollow post-shaped porous oxide structure.” (*O'Brien*, col. 13, lns. 31-32) Consequently, this other process cannot produce the required about 5 micron diameter pits required by independent claims 13 and 24. There is no suggestion in *O'Brien* to provide the claim 24 requirement of “anodising the implant at a voltage above 50

volts for a period of at least 30 minutes" because *O'Brien* teaches anodising until color develops, which in the *O'Brien* process is the very short time of less than one minute.

Moreover, *O'Brien* providing *Pickford* with "anodising the implant at a voltage above 50 volts" as required by independent claim 24 would be contrary to one of the purposes of *Pickford*. Such purpose of *Pickford* is to form a surface that has significant ion exchange properties, so that it can absorb silver ions. Applicant respectfully sets forth that anodising at a voltage above 50 volts with an electrolyte such as phosphoric acid (as taught in *O'Brien*'s other anodising process) would provide *Pickford* a surface with very poor ion exchange properties because the entire surface would be covered by a hard oxide layer.

In paragraph 8, the Examiner set forth that "[u]se of a voltage at the higher end of the range disclosed by *O'Brien* . . . would have been expected to have resulted in the same surface configuration recited by applicant in claim[s]." (emphasis added) Applicant respectfully sets forth that the teachings of *O'Brien* would not "have been expected to have resulted in the same surface configuration recited by applicant in claim[s]." For instance, if you merely apply the anodising voltage at 80 volts to 100 volts in the manner taught by *O'Brien* and use an electrolyte such as phosphoric acid, the hard oxide layer would be formed with a colored surface. Such process as taught by *O'Brien* would be complete within about one minute, with the current flow then dropping rapidly. Independent claim 24 requires anodising for a period of at least 30 minutes, the anodization period of less than one minute of *O'Brien* would not produce the required structure because *O'Brien* teaches away from applying the voltage for a prolonged period after the oxide of *O'Brien* has been formed.

In view of the recitations in independent claims 13 and 24 that are neither taught nor suggested by *Pickford* and *O'Brien*, Applicant respectfully submits that independent claims 13 and 24 are allowable over *Pickford* and *O'Brien*. Consequently, Applicant requests that the Examiner withdraw the §103 rejections of dependent claims 14, 15, 17, 19-21, 23, 25, 27, 28, 31, and 33, since it is submitted that independent claims 13 and 24 are allowable. Dependent claims 14, 15, 17, 19-21, 23, 25, 27, 28, 31, and 33 must be allowable, since they carry all the limitations of the allowable independent claims 13 and 24 to which they refer.

II. Claim 29 is patentable over *Pickford* in view of *O'Brien* and further in view of *Rosenberg*.

Applicant respectfully traverses the Examiner's rejection of claim 29 under §103 as being unpatentable over *Pickford* in view of *O'Brien* and further in view of *Rosenberg*. Applicant submits that the Examiner has not made a *prima facie* case of obviousness in rejecting such claim in that the Examiner has not cited references that teach or suggest all of the elements recited in the rejected claim.

Claims 29 is dependent upon independent claim 24. As noted above in Section I, *Pickford* in view of *O'Brien* does not teach or suggest all recitations of independent claim 24. Nothing in *Rosenberg* teaches or suggests the missing recitations of independent claim 24.

Therefore, Applicant requests that the Examiner withdraw the §103 rejection of dependent claim 29, since it is submitted that independent claim 24 is allowable. Dependent claim 29 must be allowable, since such dependent claim carries all the limitations of the allowable independent claim to which it refers.

III. Claims 13-15, 17, 19-21, 23-25, 27, 28, 31, and 33 are patentable over *O'Brien* in view of *Pickford*.

Applicant respectfully traverses the Examiner's rejection of claims 13-15, 17, 19-21, 23-25, 27, 28, 31, and 33 under §103 as being unpatentable over *O'Brien* in view of *Pickford*. Applicant submits that the Examiner has not made a *prima facie* case of obviousness in rejecting such claims in that the Examiner has not cited references that teach or suggest all of the elements recited in the rejected claims. Please note that claims 22 and 32 have been cancelled by this Response.

Claim 13 is an independent claim upon which claims 14, 15, 17, 19-21, 23, and 31 depend. Claim 24 is an independent claim upon which claims 25, 27, 28, and 33 depend. As noted above in Section I, *O'Brien* does not teach or suggest all recitations of independent claims 13 and 24. Nothing in *Pickford* teaches or suggests the missing recitations of independent claims 13 and 24.

In view of the recitations in independent claims 13 and 24 that are neither taught nor suggested by *O'Brien* and *Pickford*, Applicant respectfully submits that independent claims 13 and 24 are allowable over *O'Brien* and *Pickford*. Consequently, Applicant requests that the Examiner withdraw the §103 rejections of dependent claims 14, 15, 17, 19-21, 23, 25, 27, 28, 31, and 33, since it is submitted that independent claims 13 and 24 are allowable. Dependent claims 14, 15, 17, 19-21, 23, 25, 27, 28, 31, and 33 must be allowable, since they carry all the limitations of the allowable independent claims 13 and 24 to which they refer.

IV. Claim 29 is patentable over *O'Brien* in view of *Pickford* and further in view of *Rosenberg*.

Applicant respectfully traverses the Examiner's rejection of claim 29 under §103 as being unpatentable over *O'Brien* in view of *Pickford* and further in view of *Rosenberg*. Applicant submits that the Examiner has not made a *prima facie* case of obviousness in rejecting such claim in that the Examiner has not cited references that teach or suggest all of the elements recited in the rejected claim.

Claims 29 is dependent upon independent claim 24. As noted above, *O'Brien* in view of *Pickford* does not teach or suggest all recitations of independent claim 24. Nothing in *Rosenberg* teaches or suggests the missing recitations of independent claim 24.

Therefore, Applicant requests that the Examiner withdraw the §103 rejection of dependent claim 29, since it is submitted that independent claim 24 is allowable. Dependent claim 29 must be allowable, since such dependent claim carries all the limitations of the allowable independent claim to which it refers.

V. Conclusion

Applicant respectfully requests reconsideration, allowance of the pending claims and a timely Notice of Allowance be issued in this case. If the Examiner feels that a telephone conference would expedite the resolution of this case, the Examiner is respectfully requested to contact the undersigned.

Appl. No. 10/591,793
Response to Office Action
Dated April 30, 2010

In the course of the foregoing discussions, Applicant may have at times referred to claim limitations in shorthand fashion or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art that have yet to be raised but which may be raised in the future.

Respectfully submitted,

/ttumey/
Tod T. Tumey
Tumey L.L.P.
Reg. No. 47,146
P. O. Box 22188
Houston, Texas 77227-2188
(713) 622-7005 (Phone)
(713) 622-0220 (Fax)
ATTORNEY FOR APPLICANT